

What is claimed is:

1 1. A system for concurrently displaying respective images
2 representing real-time data and non-real-time data, comprising:
3 a source of signals representing real-time data;
4 a source of signals representing non-real-time data;
5 a display device for displaying images;
6 a processor, coupled to the real-time data source, the non-
7 real-time data source and the display device, the processor:

8 executing a windowing operating system
9 controlling the operation of an application program
10 for receiving non-real-time data and conditioning the
11 display device to display an image representing the
12 non-real-time data; and

13 executing a real-time display process,
14 independent of the execution of the operating system,
15 for receiving the real-time data and conditioning the
16 display device to display an image representing the
17 real-time data concurrently with the display of the
18 non-real-time data.

1 2. The system of claim 1, wherein:
2 the real-time data signal source is a network with a
3 specified latency limit; and
4 the real-time display process receives the real-time data
5 and displays the real-time data representative image within the
6 specified latency limit.

1 3. The system of claim 1 wherein the real-time display
2 process operates as a single thread.

1 4. The system of claim 3 wherein the real-time display
2 process thread is assigned a priority higher than the
3 application program.

1 5. The system of claim 3 wherein:
2 the windowing operating system provides a graphics display
3 interface for conditioning the display device to display a
4 specified image; and
5 the real-time display process thread provides instructions
6 to the graphics display interface to display the real-time
7 image.

1 6. The system of claim 1, wherein:
2 the application program may malfunction such that the non-
3 real-time data representative image obscures the real-time data
4 representative image;
5 the system further comprises a source of user input
6 signals; and
7 the processor, in response to a user input signal, reveals
8 the real-time data representative image.

1 7. The system of claim 6 wherein the user input signal
2 source comprises a keyboard, and the user input signal comprises
3 a key combination.

1 8. The system of claim 6 wherein the user input signal
2 source comprises a mouse, and the user input signal comprises a
3 mouse click.

1 9. The system of claim 1, wherein:
2 the windowing operating system maintains information
3 relating to the availability of resources; and
4 the processor further executes a monitor process for
5 monitoring the resource information and for taking corrective
6 action if the resource information indicate that the
7 availability of a resource is below a predetermined level.

1 10. The system of claim 9 wherein the resource information
2 maintained by the windowing operating system maintains comprises
3 information related to:
4 memory resources;
5 system resources;
6 computer resources; and
7 process resources.

1 11. The system of claim 9 wherein the corrective action
2 taken by the processor comprises:
3 modifying execution parameters of the application program;
4 terminating the application program; and
5 sending a notification to the user.

1 12. A method for concurrently displaying respective images
2 representing real-time data and non-real-time data, comprising
3 the steps of:
4 receiving non-real-time data;
5 receiving real-time data;
6 executing a windowing operating system for controlling the
7 operation of an application program responsive to the non-real-
8 time data, for conditioning a display device to display

9 respective images representing the non-real-time data;
10 executing a real-time display process, independently of the
11 windowing operating system, for conditioning the display device
12 to display respective images representing the real-time data
13 concurrently with the display of the non-real-time data.

1 13. The method of claim 12 further comprising the step of
2 executing the real-time display process as a single thread.

3 14. The method of claim 13 further comprising the step of
4 assigning the real-time display process thread a higher priority
5 than the application program.

6 15. The method of claim 13 wherein
7 the windowing operating system execution step comprises the
8 step of executing a graphics display interface to receive
9 instructions for generating images; and
10 the real-time display process execution step comprises the
11 step of providing instructions to the graphics display interface
12 to display the respective images representing the real-time data

13 16. The method of claim 12 further comprising the steps
14 of, if the application program malfunctions such that the non-
15 real-time data representative image obscure the real-time data
16 representative image:
17 receiving user input data; and
18 revealing the real-time representative data in response to
19 the user input data.

1 17. The method of claim 16 wherein the step of receiving
2 user input data comprises the step of receiving a key
3 combination from a keyboard.

1 18. The method of claim 16 wherein the step of receiving
2 user input data comprises the step of receiving a mouse click
3 from a mouse.

1 19. The method of claim 12 wherein:
2 the step of executing the windowing operating system
3 comprises the step of maintaining information relating to the
4 availability of resources; and
5 the method further comprises the step of:
6 executing a monitor process for
7 monitoring the resource information; and
8 taking corrective action if the resource
9 information indicates that the availability of a
10 resource is below a predetermined level.

1 20. The method of claim 19 wherein the step of monitoring
2 the resource information comprises the steps of:
3 monitoring memory resources;
4 monitoring system resources;
5 monitoring computer resources; and
6 monitoring process resources.

1 21. The method of claim 19 wherein the step of taking
2 correcting action comprises the steps of:
3 modifying execution parameters of the application program;

- 4 terminating the application program; and
- 5 sending a notification to the user.